

Title (en)  
SDM type thermal protector.

Title (de)  
Thermischer Schutz in SMD-Bauform.

Title (fr)  
Protecteur thermique du type SMD.

Publication  
**EP 0562438 A1 19930929**

Application  
**EP 93104355 A 19930317**

Priority  
DE 4209542 A 19920324

Abstract (en)  
[origin: US5280262A] A thermal overload fuse (1) for fixation to a circuit substrate (17) comprising at least one spring arm (13) which is solderable, under fixed pre-stressed, to a contact location on the substrate, characterized in that the spring arm (13), which is fixed to an at least substantially planar frame part (2), adopts, in its relaxed state, a position which is spaced in a perpendicular direction relative to the substrate (17), in particular relative to the contact location (16); and in that the free end of the spring arm (13) is held down by at least one auxiliary web (7) onto the substrate (17), in particular onto the contact location (16); and in that the auxiliary web (7) is detachable from the frame part (2) along a predetermined line.  
[origin: US5280262A] A thermal protection device (1) for fixing on a circuit substrate (17) and having at least one spring arm (13) which can be soldered in a prestressed manner to a contact point on the substrate is characterised in that the spring arm is attached to an at least essentially flat frame part (2) and, in the unstressed state, occupies a position which is separated in the vertical direction from the substrate, especially from the contact point. The free end of the frame part is held down on the substrate, especially on the contact point, by at least one auxiliary web. The auxiliary web can be separated from the frame part along a predetermined line. <IMAGE>

Abstract (de)  
Ein thermischer Schutz (1) zur Fixierung an einem Schaltungssubstrat (17) mit wenigstens einem Federarm (13), der unter Vorspannung mit einer Kontaktstelle des Substrats verlötbar ist, ist dadurch gekennzeichnet, daß der Federarm an einem zumindest im wesentlichen ebenen Rahmenteil (2) befestigt ist und im entspannten Zustand eine gegenüber dem Substrat, insbesondere der Kontaktstelle, in senkrechter Richtung beabstandete Stellung einnimmt. Das freie Ende des Rahmenteils ist durch zumindest einen Hilfssteg auf das Substrat, insbesondere auf die Kontaktstelle, niedergehalten ist. Der Hilfssteg ist entlang einer vorbestimmten Linie von dem Rahmenteil abtrennbar. <IMAGE>

IPC 1-7  
**H01H 37/76**

IPC 8 full level  
**H01H 37/76** (2006.01); **H05K 1/02** (2006.01); **H05K 3/34** (2006.01)

CPC (source: EP US)  
**H01H 37/761** (2013.01 - EP US); **H05K 1/0201** (2013.01 - EP US); **H01H 2001/5888** (2013.01 - EP US); **H01H 2037/046** (2013.01 - EP US); **H01H 2037/763** (2013.01 - EP US); **H01H 2300/066** (2013.01 - EP US); **H05K 3/3421** (2013.01 - EP US); **H05K 2201/10181** (2013.01 - EP US); **H05K 2203/176** (2013.01 - EP US)

Citation (search report)  
• [AD] EP 0352771 A2 19900131 - SIEMENS AG [DE]  
• [A] US 3763454 A 19731002 - ZANDONATTI R  
• [A] PATENT ABSTRACTS OF JAPAN vol. 16, no. 101 (E-1177)12. März 1992 ( TOSHIBA ) 11. Dezember 1991  
• [A] SOVIET INVENTIONS ILLUSTRATED Section EI, Week 8728, 22. Juli 1987 Derwent Publications Ltd., London, GB; Class V03, AN 87-198103/28 & SU-A-1 275 572 (ELEKTROVYPRY AMITEL) 7. Dezember 1986

Cited by  
FR2994892A1; CN108475601A; CN102362329A; FR2926394A1; FR2863100A1; FR2978324A1; EP2411994A4; US8581686B2; US8854784B2; WO2011057742A1; WO9820510A1; WO2009112658A3; WO2010110877A1; WO2014037242A1; US8289122B2; US9343253B2; US11811272B2

Designated contracting state (EPC)  
DE ES FR GB IT NL SE

DOCDB simple family (publication)  
**EP 0562438 A1 19930929**; **EP 0562438 B1 19960605**; DE 4209542 A1 19930930; DE 4209542 C2 19950706; DE 59302783 D1 19960711; ES 2088181 T3 19960801; JP H0620575 A 19940128; US 5280262 A 19940118

DOCDB simple family (application)  
**EP 93104355 A 19930317**; DE 4209542 A 19920324; DE 59302783 T 19930317; ES 93104355 T 19930317; JP 6520393 A 19930324; US 3384193 A 19930319